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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/782,481	02/18/2004	Arthur Telkamp	703427.4004	5651

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EXAMINER

STEIN, JAMES D

ART UNIT	PAPER NUMBER
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2874

DATE MAILED: 09/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/782,481	TELKAMP ET AL.	
	Examiner	Art Unit	
	James D. Stein	2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☒ Claim(s) 22-31 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>1104</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is responsive to applicant's election without traverse of claims 1-31 (group I) filed on 8/15/05. Claims 32-51 have been cancelled. Therefore, claims 1-31 are pending in the application.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-21 are rejected under 35 U.S.C. 102(e) as being anticipated by [USPAT 6,665,476] to Braun et al. ("Braun"), which discloses a related waveguide coupling system for propagating light.

With regard to claims 1-5, figs. 2 and 8A show a substrate 500; a first waveguide 104 adapted to propagate a first light signal having a first waveguide portion running in a first direction on a first plane relative to the substrate 500; a second waveguide 102 adapted to propagate a second light signal having a second waveguide portion running in a second direction on said first plane, the second direction being different (perpendicular to) than the first direction; and a third waveguide 204 having a third waveguide portion lying in a second plane different than the first plane (parallel to and above said first plane), the third waveguide portion being directionally coupled with the second waveguide portion 102 to propagate the second light signal

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from the second waveguide portion 102 into the third waveguide portion 204 (see entire document, col. 12, lines 54-58).

With regard to claims 6-10, in addition to the rejection of claim 1 previously discussed above, Braun teaches that the third waveguide portion achieves full or substantially full coupling of the second light signal from the second waveguide portion 102 to the third waveguide portion 204 (0% - 100%, col. 7 lines 50-55). This teaching inherently includes a coupling length that achieves “full coupling”, “at least 90% of full coupling”, and “at least 75% of full coupling”, as claimed by applicant. It is noted that in evanescent field coupling, such as that taught by Braun, the coupling length is inherently related to the characteristics of the waveguides involved and the separation distance between said waveguides (col. 6, line 64 - col. 7 line 15).

With regard to claims 11-14, in addition to the rejection of claim 6 previously discussed above, the claimed invention has been disclosed and previously discussed above in the rejections of claims 1-5.

With regard to claims 15-19, in addition to the rejection of claim 12 previously discussed above, the claimed invention has been disclosed and previously discussed above in the rejections of claims 6-10.

With regard to claims 20 and 21, in addition to the rejection of claims 1 and 12 previously discussed above, Braun discloses a semiconductor substrate 500 (col. 15 line 4).

Allowable Subject Matter

Claims 22-31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. None of the cited prior art discloses or suggests the waveguide

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system discussed above, further comprising: a fourth waveguide having a fourth waveguide portion, the fourth waveguide portion running in a fourth direction on the first plane, the fourth direction being different than the first direction, and the third waveguide having a fifth waveguide portion, the fifth waveguide portion lying in the second plane, the fifth waveguide portion being directionally coupled with the fourth waveguide portion to propagate the second light signal from the fifth waveguide portion into the fourth waveguide portion. This configuration allows applicant to achieve the particular coupling structure of the present invention as shown in fig. 4A. It would not have been obvious at the time of the invention to one of ordinary skill in the art to modify the waveguide system disclosed by Braun to include such structure because the third waveguide portion does not include an addition waveguide portion, and applicant has discovered that the present configuration facilitates desirable low-loss characteristics.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: [USPUB 20020181855] to Xue et al., which discloses a related optical waveguide system.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

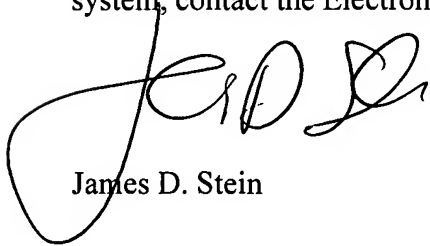
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invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

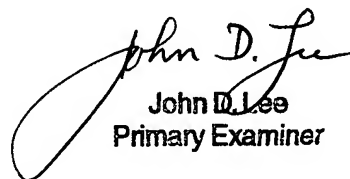
Any inquiry concerning this communication or earlier communications from the examiner should be directed to James D. Stein whose telephone number is (571) 272-2132. The examiner can normally be reached on M-F (8:00am-4:30pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



James D. Stein



John D. Lee
Primary Examiner